

SERVICE BULLETIN

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* Supersedes Service Information Notices HN-199, DN-132, EN-21 and FN-9 dated 6 December 1984.

RIVETING TIP-CAP TO TAIL ROTOR BLADE

1. PLANNING INFORMATION

A. MODELS AFFECTED:

Part I – All 369A (OH-6A), 369D, 369E, 369F, 369H, 369HE, 369HM, and 369HS Series Helicopters having any of the following part number tail rotor blades installed, with serial numbers not listed in MDHI Service Information Notices DN-129, EN-18 and HN-195, dated 27 August 1984, and all such blades in spares inventory.

> AFFECTED BLADE PART NOS. 369A1613-3, -7, -501 and -503 369D21613-BSC 369D21613-11, -41 and -51 369D21606 369D21615 421-088-BSC and -3

Part II – All 369A, 369D, 369E, 369F, 369H, 369HE, 369HM and 369HS Series Helicopters on which procedures in Part I of this Notice or MDHI Service Information Notices No. DN-129, EN-18 and HN-195 are performed, and all spare tail rotor blades on which the procedures are performed.

B. <u>PREFACE:</u>

Part I of this Notice gives procedures for riveting tip-cap assemblies to the affected tail rotor blades. Debonding of the tip-cap from the blade could occur, causing loss of the tip-cap during operation of the helicopter.

Part II gives procedures for removing FOD from the blade interior, should removal of the rivets holding the tip-cap be required.

All tail rotor blade assemblies manufactured by Hughes after 21 December 1984, will have the tip-cap riveted to the blade at the factory.

C. TIME OF COMPLIANCE:

Part I shall be accomplished within the next 100 hours of operation for all affected blades in service.

Shall be accomplished prior to installation of any affected blade from spares.

Part II shall be performed as required, while performing Part I of this Notice, or while performing procedures in Hughes Service Information notices No. DN-129, EN-18 and HN-195.

D. FAA APPROVAL:

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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E. WEIGHT AND BALANCE:

Weight and balance not affected

F. <u>REFERENCE:</u>

Basic Handbook of Maintenance Instructions (CSP-H-2), Reissued 15 September 1981. 369D HMI Volume I (CSP-D-2), Reissued 15 January 1982; Revision 3, 15 August 1982. 369F HMI Volume I (CSP-F-2), issued i March 1984. Hughes Service Information Notice No. DN-129, EN-18 and HN-195, Issued 20 November 1984.

PART I - Riveting Tip-Cap To Blade

MATERIALS				
Nomenclature		Source		
Rivet, Blind	NAS1739B4-2	Commercial		
Primer, Zinc Chromate TT-P-1757		Commercial		
Epoxy, Clear		Commercial		

TOOLS AND EQUIPMENT			
Nomenclature	Source		
Drill motor, Portable	Commercial		
Drill, No. 27	Commercial		
Drill, No. 30	Commercial		
Countersink, 100° ±1°, with No. 30 Pilot	Commercial		
Rivet Tool, Pneumatic G700, G784 or G689	Cherry Rivet Division 1224 Warner Ave. Santa Ana, CA 92707 Phone: (714) 545-5511		
AND			
Pulling Head, H681-4C	Cherry Rivet Division		
OR			
Hand Riveter, G-36	Cherry Rivet Division		
AND			
Pulling Head, H615-4C	Cherry Rivet Division		

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PROCEDURE

a. Remove blade from helicopter (Section 8, appropriate Ref. HMI).

b. Visually inspect tip-cap to blade bonding for failure. If any evidence of debonding is noted, replace blade (Section 8, appropriate Ref. HMI).

CAUTION Handle blade carefully. Dents, nicks or scratches may cause balance problems at reinstallation, or make blade unserviceable.

c. With blade on a clean hard surface, measure and mark locations for rivet holes as shown in Figure 1.

CAUTION

Ensure that locations for rivet holes are correctly marked.

d. Using No. 30 drill, carefully drill holes at locations marked on outboard and inboard surfaces of blade.

e. Using $100 \pm 1^{\circ}$ countersink with No. 30 pilot, countersink holes to 0.035 inch maximum depth; carefully open holes to 0.144 inch diameter using No. 27 drill.

f. Apply zinc chromate primer to holes and install NAS1739B4-2 rivets while primer is wet.

- **NOTE:** If it is necessary to remove installed rivet for any reason, perform Part II of this Notice to remove FOD from blade.
 - g. Coat installed rivets with clear epoxy.
 - h. Touch-up paint as necessary (Section 2, appropriate Ref. HMI).

CAUTION Do not use paint strippers when performing paint touch-up. Bond joints can be damaged.

- i. Reinstall blade on helicopter (Section 2, appropriate Ref. HMI).
- j. Check and adjust tail rotor blade balance (Section 8, appropriate Ref. HMI).
- k. Record compliance with Part I of this Notice in Compliance Record of Helicopter Log Book.

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PART II- Removal of FOD from Blade Interior

MATERIAL				
Nomenclature		Source		
Fiberglass Cloth, No. 120		Commercial		
Resin, Epoxy	Spec. 3135A and B	Crest Products Corp. 2000-T S. Susan St. Santa Ana, CA 92704 Phone: (714) 540-9087		
OR				
Any 2 part (1:1) Clear epoxy resin				
1,1,1-T richloroethane	Spec. 0-T-620	Commercial		
Emery Cloth		Commercial		

TOOLS AND EQUIPMENT			
Nomenclature	Source		
Drill Motor, Portable	Commercial		
Drill, 1/4-inch	Commercial		

PROCEDURE

a. Drill 0.250 inch diameter hole through tip-cap as shown in Figure 1. Tip-cap is 0.070 inch thick at the point to be drilled.

b. Remove FOD from blade interior through hole.



Trichloroethane may damage blade paint finish.

c. Abrade surface surrounding hole using emery cloth; wipe clean using clean cloth dampened with trichloroethane.

d. Bond two plies of 120 fiberglass cloth over hole with 3135A and B epoxy resin, or equivalent. Allow epoxy to cure according to manufacturers instructions.

CAUTION Do not allow resin to build-up in hole.

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AFTER REMOVAL OF DEBRIS SEAL . 250 DIA. HOLE WITH 2 PLIES OF 120 FIBERGLASS CLOTH & 3135 A&B EPOXY RESIN (CREST PRODUCTS OR EQUIVI AS SHOWN. SURFACE PREPARATION: ABRADE SURFACE WITH EMERY CLOTH AND WIPE WITH 1, 1, 1-TRICHLOROETHANE SOLVENT. DO NOT ALLOW RES IN TO BUILD UP IN .250 DIA HOLE.

HOLE LOCATION

NOTE: FIBERGLASS THIS AREA. DO NOT PLACE FIBERGLASS CLOTH OVER OPENING FOR BALANCE WEIGHTS.

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Figure 1. Riveting Tip-Cap to Blade; FOD Removal from Blade Interior

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